UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,906	06/20/2003	Jerome M. Verbeke	5681-65900	9206

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EXAMINER
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ART UNIT	PAPER NUMBER
2194	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/600,906	VERBEKE ET AL.
	Examiner	Art Unit	✓
	Diem K. Cao	2194	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 April 2007*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-68* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-68* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

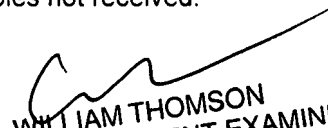11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-68 are pending. Applicant has amended claims 1, 2, 5, 9, 18, 19, 22-25, 34-36,

39 and 52-68.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows: .

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 34 is rejected under 35 U.S.C. 101 because the claimed invention is directed to

non-statutory subject matter.

Claim 34 is directed to computer programs, i.e., software per se, which are not physical

"things". They are neither computer components nor statutory processes, as they are not "acts"

being performed. Such claimed computer programs do not define any structural and functional

interrelationships between the computer program and other claimed elements of a computer

which permit the computer program's functionality to be realized. In contrast, a claimed storage

computer-readable medium encoded with a computer program is a computer element which

defines structural and functional interrelationships between the computer program and the rest of

the computer which permit the computer program's functionality to be realized, and is thus

statutory.

See MPEP 2106.

Claim Objections

3.   Claim 34 is objected to because of the following informalities: on line 10, ";" is needed

after "on the system". Appropriate correction is required.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   **Claim 34 is rejected under 35 U.S.C. 102(b) as being anticipated by Monday et al.**

(U.S. 6,263,377 B1).

As to claim 34, Monday teaches

- a default class loader configured to load classes for code on the system from one or more local locations indicated by a class path of the default class loader (CLASSLOADER, checks the environment variable CLASSPATH for ... to the requesting application; col. 3, lines 38-44);

- means for determining that a class needed to execute the code on the system is not stored in the one or more locations indicated by the class path (checks the environment variable CLASSPATH ... selected file; col. 3, lines 38-40 and If x.class is not loaded; col. 3, line 43);

- means for obtaining the class from a remote system via a network (a REMOTECLASSLOADER checks ... if the class is found; col. 3, lines 45-54); and

- means for storing the class in a location indicated by the class path of the default class loader on the system (write it to the first CLASSPATH directory, thus building the class locally that the network does not have to be consulted on the next run; col. 3, lines 54-56);

- wherein the default class loader is configured to load the class from the location indicated by the class path (inherent from "checks the environment variable CLASSPATH for ... to the requesting application"; col. 3, lines 38-43, since only the CLASSLOADER can load from the CLASSPATH).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   **Claims 1-8, 10-13, 16, 35-59, 61-64 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monday et al. (U.S. 6,263,377 B1) in view of Venners (Inside the Java Virtual Machine).**

As to claim 1, Monday teaches a system, comprising:

- a processor (a central processing unit 101; col. 2, lines 22-23); and

- a memory comprising program instructions, wherein the program instructions are executable by the processor to implement (memory, distributed application manager 132; col. 2, lines 24-25, 34-36):

        - a default class loader (CLASSLOADER; col. 3, line 44) configured to:

                - load classes for code on the system from one or more local locations indicated by a class path of the default class loader (checks the environment variable CLASSPATH for ... to the requesting application; col. 3, lines 38-43); and

                - determine that a class needed to execute the code on the system is not stored in the one or more locations indicated by the class path (checks the environment variable CLASSPATH ... selected file; col. 3, lines 38-40 and If x.class is not loaded; col. 3, line 43);

        - a remote class loader mechanism configured to (a REMOTECLASSLOADER; col. 3, line 45):

                - obtained the class from a remote system via a network (a REMOTECLASSLOADER checks ... if the class is found; col. 3, lines 45-54); and

- store the class in a location indicated by the class path of the default class loader on the system (write it to the first CLASSPATH directory, thus building the class locally that the network does not have to be consulted on the next run; col. 3, lines 54-56);

- wherein the default class loader is configured to load the class from the location indicated by the class path (inherent from "checks the environment variable CLASSPATH for ... to the requesting application"; col. 3, lines 38-43, since only the CLASSLOADER can load from the CLASSPATH).

Monday does not explicitly teach generate an indication that the class in not loaded, and detect the indication that the class is not loaded. However, Verners teaches generate an indication that the class in not loaded (ClassNotFoundException; chapter 5, pages 11-12, section "User-Defined Class Loaders"), and detect the indication that the class is not loaded (ClassNotFoundException; chapter 5, pages 11-12, section "User-Defined Class Loaders" and Chapter 3 "Security", page 5, second paragraph).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the teaching of Verners to the system of Monday because Verners teaches in details how a Java application load and utilize class that are needed at runtime.

As to claim 2, Monday teaches the default class loader is configured to locate the class stored in the location indicated by the class path, and load the class from the location for access by the code (checks the environment variable CLASSPATH for ... to the requesting application; col. 3, lines 38-43).

As to claim 3, Venners teaches the location is a default directory for storing remote classes (The class loader ... each class loader; chapter 3, page 4 and page 6).

As to claim 4, Venners teaches the location is a user-specified directory for storing remote classes (user-defined directory path; chapter 5, page 11, section "The Bootstrap Class Loader").

As to claim 5, Venners teaches the indication is an exception generated by the code and indicating that the class is not stored in the one or more locations indicated by the class path (ClassNotFoundException; chapter 5, pages 11-12, section "User-Defined Class Loaders").

As to claim 6, Monday teaches to obtain the class from a remote system, the remote class loader mechanism is further configured to send a message requesting the class to one or more remote systems, wherein the message comprises information about the class for identifying a class file on the remote system that comprises the requested class (a REMOTECLASSLOADER checks ... if the class is found; col. 3, lines 45-54).

As to claim 7, Monday teaches to obtain the class from a remote system, the remote class loader mechanism is further configured to send a message requesting the class to the remote system, and receive the class from the remote system in one or more messages in response to the message (a REMOTECLASSLOADER checks ... if the class is found; col. 3, lines 45-54).

As to claim 8, Monday teaches to obtain the class from a remote system, the remote class

loader mechanism is further configured to broadcast a message requesting the class to one or

more remote systems including the remote system on the network, and receive the class from the

remote system in one or more messages in response to the broadcast message (a

REMOTECLASSLOADER checks ... if the class is found; col. 3, lines 45-54).

As to claim 10, Monday does not explicitly teach the program instructions are further

executable by the processor to implement a virtual machine on the system, wherein the code is

executable within the virtual machine. However, Monday teaches the applications executed on

the computer can be Java application. Venners teaches the virtual machine is implemented on the

computer system to execute Java application (Chapter 5 "The Java Virtual Machine"; page 1).

As to claim 11, Verners teaches the virtual machine is a Java Virtual Machine (Java

Virtual Machine; Chapter 5 "The Java Virtual Machine", page 1).

As to claim 12, Monday as modified by Venners teaches the code is in a bytecode

computer language (Java; col. 2, lines 61-62).

As to claim 13, Monday teaches the code is Java code (Java; col. 2, lines 61-62).

As to claim 16, Monday teaches the code a code fragment of an application configured

for execution on the system, and wherein the remote system is a node in a distributed computing

framework that comprises the application and is configured to provide computer-executable code

fragments of the application to two or more other systems to run the code fragments in parallel to

execute the application (abstract).

As to claim 35, it is the same as the system claim of claim 1 except it is a method claim,

and is rejected under the same ground of rejection.

As to claim 52, it is the same as the system claim of claim 1 except this is a computer

product claim, and is rejected under the same ground of rejection.

As to claims 53-59, 61-64 and 67, see rejections of claims 2-8, 10-13 and 16 above.

8.   **Claims 9, 14, 15, 17-33, 60, 65, 66 and 68 are rejected under 35 U.S.C. 103(a) as**

being unpatentable over Monday et al. (U.S. 6,263,377 B1) in view of Venners (Inside the

Java Virtual Machine) further in view of Babaoglu et al. (Anthill: A Framework for the

Development of Agent-Based Peer-to-Peer Systems).

As to claim 9, Monday does not teach the one or more remote systems and the system are

member peers of a peer group in a peer-to-peer network environment. However, Babaoglu

teaches peer-to-peer application can be implemented in Java (page 7, section 4). It would have

been obvious to one of ordinary skill in the art at the time the invention was made to apply the

teaching of Babaoglu to the system of Monday because it presents a framework supporting anew

approach for building P2P application in which resource can be sharing by direct exchange between peer nodes.

As to claim 14, see rejection of claim 9 above.

As to claim 15, Monday does not teach the system and the remote system are configured to participate as peer nodes in a peer-to-peer platform protocols for enabling the peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups in the peer-to-peer environment. However, Babaoglu teaches peer-to-peer application can be implemented in Java (page 7, section 4).

As to claim 17, Monday teaches the system and the remote system are configured to participate in a distributed computing system on the network (abstract). Monday does not teach submitting computational tasks in a distributed heterogeneous networked environment that utilizes peer groups to decentralize task dispatching and post-processing functions and enables a plurality of jobs to be managed and run simultaneously. However, Babaoglu teaches peer-to-peer application can be implemented in Java (page 7, section 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the teaching of Babaoglu to the system of Monday because it presents a framework supporting anew approach for building P2P application in which resource can be sharing by direct exchange between peer nodes.

As to claim 18, see rejections of claim 1 and 17 above.

As to claims 19-33, see rejections of claims 2-17 above.

As to claim 60, see rejection of claim 9 above.

As to claims 65-66, see rejection of claims 14-15 above.

As to claim 68, see rejection of claim 17 above.

Response to Arguments

9.   Applicant's arguments with respect to claims 1-68 have been considered but are moot in

view of the new ground(s) of rejection.

Conclusion

10.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure. See PTO 892.

11.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Diem K. Cao whose telephone number is (571) 272-3760. The

examiner can normally be reached on Monday - Friday, 7:30AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, William Thomson can be reached on (571) 272-3718. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DC

June 18, 2007

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER